

steadily to 47.2 feet at the close of the month. At New Orleans, La., the river reached the danger-line, 13 feet, on the 5th; fell to 12.8 feet on the 7th; rose to 15.5 feet on the 22d; fell to 15.4 feet on the 23d; rose to 15.9 feet on the 25th; fell to 15.8 feet on the 26th; and rose to 16 feet on the 28th to 30th.

At the close of the month the Mississippi River was above the danger-line from Cairo to the Gulf. It was falling slowly at Cairo and rising slowly from Memphis southward. The important levees of the lower Mississippi were holding firm, the only important crevasse reported having occurred at La Blanches on the Bayou La Fourche. At that place a schoolhouse was swept away and a number of children narrowly escaped drowning.

ICE IN LAKES AND RIVERS AND OPENING OF NAVIGATION.

A report from Laconia, N. H., stated that Lakes Winipeg and Winnesquam were clear of ice on the 12th, and that the break up of ice this season was the earliest in 20 years. Lake Champlain was clear of ice at Burlington, Vt., on the 7th. Navigation was opened at Oswego, N. Y., on the 5th, and Lake Ontario was reported clear of ice. Navigation opened at Buffalo, N. Y., on the 7th, at Erie, Pa., on the 3d, and at Sandusky, Ohio, on the 11th. The first boat of the season cleared from Alpena, Mich., on the 6th, and the first arrival of the season was reported on the 10th. The first boat of the season from Detroit arrived at Port Huron, Mich., on the 2d, and a steamer cleared for Lake Huron ports. The first boat of the season from Alpena arrived at Port Huron, Mich., on the 7th.

Reports from Sault de Ste. Marie, Mich., state that on the 3d the ice was rapidly disappearing from the Saint Marys River and that the channel was open; 5th to 8th, heavy floating ice in the river; 11th, ferryboats began making regular trips; 15th, floating ice in river, and an ice gorge reported at Point Iroquois; 16th to 19th, heavy floating ice in river; 22d, steamers arrived from Duluth, Minn.; 24th, ice formed, and boats detained by floating ice; 25th, ice gorge from Point Iroquois to Waiski Bay detained boats; 30th, ice gorge at Point Iroquois broke, and river full of heavy floating ice.

The first boat of the season from Chicago to Buffalo passed Detroit, Mich., on the 11th. At Duluth, Minn., navigation was reported opened on the 20th, and on the 22d four vessels, the first of the season, arrived. Navigation was opened at Marquette, Mich., on the 21st. Ice passed out of Lake Winnebago, Wis., on the 1st. The first boats of the season from Buffalo, N. Y., arrived at Milwaukee, Wis., on the 15th. Navigation was opened on Lake Michigan at Chicago, Ill., on the 4th. Navigation was opened at Green Bay, Wis., on the 11th.

Ice broke up in the Penobscot River from Bangor to the sea on the 4th. Navigation on the lower Hudson River was open on the 4th. Navigation opened on the Susquehanna River at Wilkes Barre, Pa., on the 1st.

Mississippi River.—Lake Pepin was clear of ice on the 3d. The first boat of the season for up river ports passed Red Wing, Minn., on the 7th, opening navigation at an unusually early date. The first boat of the season from Saint Louis, Mo., arrived at Saint Paul, Minn., on the 21st.

Missouri River.—On the 1st ice was moving slowly at Fort Buford, N. Dak., and on the 2d the river was gorged with ice below that point. At Pierre, S. Dak., large quantities of ice began running on the 5th. On the 29th navigation was opened by the arrival of a steamer from up the river. The first boat of the season from Saint Louis, Mo., arrived at Kansas City, Mo., on the 2d.

STAGE OF WATER IN RIVERS.

In the following table are shown the danger-points at the various river stations; the highest and lowest stages for the month, with the dates of occurrence, and the monthly ranges:

Heights of rivers above low-water mark, April, 1892 (in feet and tenths).

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Date.	Height.	Date.	Height.	
<i>Red River.</i>						
Shreveport, La.....	29.9	21	20.3	1	16.3	4.0
<i>Arkansas River.</i>						
Fort Smith, Ark.....	22.0	8	16.1	21	5.8	10.3
Little Rock, Ark.....	23.0	9, 10	20.0	20	8.7	11.3
<i>Missouri River.</i>						
Fort Buford, N. Dak *.....		23, 28	6.8	19	5.4	1.4
Pierre, S. Dak.....	14.0	8	4.4	26, 28	1.3	3.1
Sioux City, Iowa.....	18.7	11	10.7	23	7.9	2.8
Omaha, Nebr.....	18.0	12	10.6	26	8.5	2.1
Kansas City, Mo.....	21.0	15	15.5	30	12.8	2.7
<i>Mississippi River.</i>						
Saint Paul, Minn.....	14.0	3, 4	5.7	25	3.1	2.6
La Crosse, Wis.....	11.8	11, 12	7.3	1	3.1	4.2
Dubuque, Iowa.....	16.0	18	10.5	1, 2	4.9	5.6
Davenport, Iowa.....	15.0	19, 20, 21	7.4	1	3.5	3.9
Keokuk, Iowa.....	14.0	22	9.7	2	4.8	4.9
Hannibal, Mo.....	17.0	6	12.6	3	6.3	6.3
Saint Louis, Mo.....	30.0	7, 8	26.8	1	17.4	9.4
Cairo, Ill.....	40.0	28	48.3	1	33.9	14.4
Memphis, Tenn.....	33.0	30	34.5	1	24.3	10.2
Vicksburg, Miss.....	41.0	30	47.2	1	32.9	14.3
New Orleans, La.....	13.0	28, 29, 30	16.0	1	11.7	4.3
<i>Ohio River.</i>						
Parkersburg, W. Va.....	38.0	7	17.6	30	8.4	9.2
Cincinnati, Ohio.....	45.0	25	43.8	18	20.5	23.3
Louisville, Ky.....	24.0	23	22.1	18	9.3	12.8
<i>Cumberland River.</i>						
Nashville, Tenn.....	40.0	26	38.8	18	12.8	26.0
<i>Tennessee River.</i>						
Chattanooga, Tenn.....	33.0	10	34.3	5	6.5	27.8
Knoxville, Tenn.....	29.0					
<i>Monongahela River.</i>						
Pittsburg, Pa.....	29.0	24	12.5	30	4.0	8.5
<i>Savannah River.</i>						
Augusta, Ga.....	32.0	9	25.5	30	8.6	16.9
<i>Willamette River.</i>						
Portland, Oregon.....	15.0	28, 29	7.5	5	5.0	2.5
<i>Susquehanna River.</i>						
Harrisburg, Pa.....	17.0	6	14.8	30	3.2	11.6
<i>Alabama River.</i>						
Montgomery, Ala.....	48.0	11	39.9	30	7.0	32.9

* For 15 days.

ATMOSPHERIC ELECTRICITY.

THUNDERSTORMS.

Description of the more severe thunderstorms reported for the month is given under "Local storms."

Thunderstorms were reported as follows: East of the Rocky Mountains they were reported in the greatest number of states, 23, on the 4th; in 20 on the 3d and 20th; in 15 to 19 on the 1st, 5th, 13th, 14th, 18th, 19th, 22d, 27th, and 28th; in 10 to 14 on the 2d, 6th, 7th, 17th, 21st, 23d to 26th, 29th, and 30th; in 5 to 9 on the 10th, 12th, 15th, and 16th; and in 4 on the 8th, 9th, and 11th. There was no date for which thunderstorms were not reported east of the Rocky Mountains.

East of the Rocky Mountains thunderstorms were reported on the greatest number of dates, 25, in Kansas; on 21 in Illinois; on 15 to 20 in Arkansas, Iowa, Louisiana, Mississippi, Missouri, Nebraska, South Dakota, Tennessee, and Texas; on

10 to 14 in Alabama, Georgia, Indiana, Kentucky, Michigan, New York, North Carolina, Ohio, Oklahoma Territory, South Carolina, and Virginia; on 5 to 9 in Florida, Indian Territory, Maryland, Minnesota, Montana, North Dakota, Pennsylvania, West Virginia, and Wisconsin; and on 1 to 4 in Connecticut, District of Columbia, Massachusetts, New Jersey, and Vermont.

West of the Rocky Mountains thunderstorms were reported in California on the 2d, 11th, 14th, 16th, and 30th; in Colorado on the 3d, 4th, 7th, 9th to 12th, 14th, 17th, 18th, 19th, 21st, 23d, 24th, and 25th; in Nevada on the 6th and 22d; in New Mexico on the 19th and 20th; in Oregon on the 29th; in Utah on the 15th, 16th, 18th, 22d, 23d, and 24th; in Washington on the 5th, 17th, and 29th; and in Wyoming on the 16th, 17th, 25th, and 26th. In states and territories other than those named no thunderstorms were reported.